

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled).
2. (Currently Amended) The device of claim [[1]] 39 wherein the P- doped [[said P – doped]] well has a thickness of about 4 μm to about 10 μm .
3. (Currently Amended) The device of claim [[1]] 39 wherein the [[said]] P+ doped region has a thickness of about 0.1 μm to about 2 μm .
4. (Currently Amended) The device of claim [[1]] 39 wherein the P- doped [[said P – doped]] well has a dopant level of at least 10^{16} atoms/cm³.
5. (Currently Amended) The device of claim 4 wherein the P- doped [[said P – doped]] well has a dopant level of about 2.5×10^{17} atoms/cm³.
6. (Currently Amended) The device of claim [[1]] 39 wherein the [[said]] P+ doped region has a dopant level of at least 10^{18} atoms/cm³.
7. (Currently Amended) The device of claim 6 wherein the [[said]] P+ doped region has a dopant level of about 6×10^{19} atoms/cm³.
8. (Currently Amended) The device of claim [[1]] 39 wherein the [[said]] N- doped [[N – doped]] layer has a dopant level of about 10^{14} atoms/cm³ to about 10^{15} atoms/cm³.

9. (Cancelled).

10. (Currently Amended) The device of claim [[1]] 39 wherein the [[said]] noble metal impurities are selected from the group consisting of gold, platinum, and palladium.

11. (Currently Amended) The device of claim 10 wherein the [[said]] noble metal impurities comprise platinum.

12. (Currently Amended) The device of claim 11 wherein the [[said]] recombination centers are formed by platinum diffusion through the one surface of the [[said N + doped]] substrate into the [[said]] N- doped layer [[N – doped]] and P- doped [[P – doped]] well.

13. (Currently Amended) The device of claim 11 containing platinum impurities at a concentration of about 1×10^{15} to about 1×10^{16} atoms/cm³.

14. (Currently Amended) The device of claim 13 wherein the [[said]] concentration of platinum impurities is about 2×10^{15} atoms/cm³.

15 – 16. (Cancelled).

17. (Currently Amended) The device of claim [[1]] 39 comprising a diode, MOSFET or an IGBT power device.

18 – 34. (Cancelled).

35. (Currently Amended) A power semiconductor device comprising:

a semiconductor substrate with two surfaces, an N+ doped layer extending into the substrate from one surface thereof, an N- doped layer over the N+ doped layer, a P- doped well formed in the N- doped layer and extending from the other surface of the substrate into the N- doped layer, the ~~the~~ ~~[[said]]~~ P- ~~doped well layer~~ ~~having~~ having a first thickness and forming a first boundary with the N- doped layer, a P+ doped region formed in the P- doped well and extending from the other surface of the substrate into the P- doped ~~[[P-doped]]~~ well ~~having~~ ~~to have~~ having a second thickness and ~~forming~~ ~~to form~~ forming a second boundary between the P+ doped region and the P- doped well, an N+ doped region formed in the other surface of the substrate, the ~~the~~ ~~[[said]]~~ N+ doped region having a third thickness and forming a third boundary between the N+ doped region and the P- well or the N- doped ~~[[N-doped]]~~ layer,

wherein the P+ doped region is vertically thinner than the P- doped well and vertically thinner than the N+ doped region, and

recombination centers comprising noble metal impurities disposed in the ~~the~~ ~~[[said]]~~ N- doped layer and the P- doped ~~[[said P - doped]]~~ well.

36. (Cancelled).

37. (Currently Amended) The device of claim 35 wherein the ratio of thickness of the P+ doped region to the P- doped ~~[[P-doped]]~~ well is between 1:40 and 1:5.

38. (Currently Amended) The device of claim 37 wherein the P+ doped region is between 0.1 and ~~[[to]]~~ 2.0 μm thick and the P- doped ~~[[P-doped]]~~ well is between 4.0 and 10.0 μm thick.

39. (Currently Amended) The device of claim 35
wherein the third boundary is between the N+ doped region and the N-
doped layer; and

wherein the N+ doped region is separated from the P- doped [[P-doped]] well by the N- doped layer.

40. (Currently Amended) The device of claim 35
wherein the third boundary is between the N+ doped region and the P-
doped well; and
wherein the N+ doped region is within the P- doped [[P-doped]] well.

41. (Currently Amended) The device of claim 40
wherein the third boundary is between the N+ doped region and the P-
doped well; and
wherein the N+ doped region abuts the P+ doped region.